



**Natural Heritage
& Endangered Species
Program**

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Massachusetts Division of Fisheries & Wildlife

American Twinflower
***Linnaea borealis* L.**
ssp. *americana* (Forbes) Hultén ex Clausen

State Status: **Special Concern**

Federal Status: **None**

DESCRIPTION: American Twinflower (*Linnaea borealis* ssp. *americana*) is a trailing, evergreen wildflower of the honeysuckle family (Caprifoliaceae), known from a variety of forest habitats across the continent. Its scientific name was assigned in honor of Carl Linnaeus, the “father of modern taxonomy” and a great admirer of this woodland flower. Its common name refers to distinctive “twin” pinkish flowers that share each stalk, and for the plant’s series of paired leaves along each branch.

AIDS TO IDENTIFICATION: American Twinflower is a “subshrub,” a weakly woody plant, which grows in a somewhat creeping manner via stolons along the forest floor. Its aerial branches, which can reach up to 10 cm (~4 in.) in height, produce numerous pairs of oppositely arranged, coarsely toothed leaves. The leaves are oval in shape (sometimes widest above the middle), firm in texture, and about 1 to 2 cm (~0.4–0.8 in.) long. During the late spring and summer, slender peduncles (flower stalks) grow from the aerial branches to 10 cm in height.

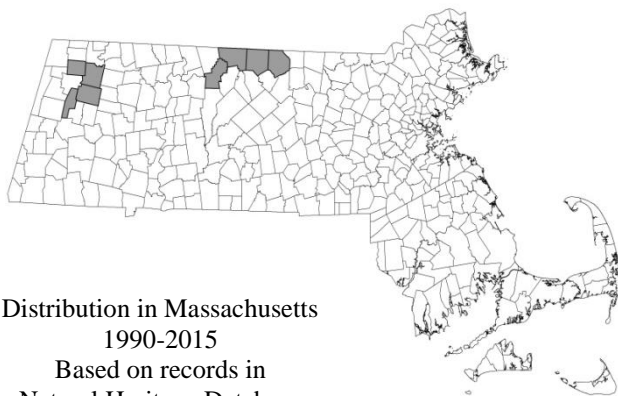


Photo by Marilee Lovit, used by permission

Each peduncle bears dual nodding five-lobed flowers. The petals are white to pink, 1 to 1.5 cm (~0.4–0.6 in.) long. They form a tube at the base and are flared at the tip. Fruits are 3 mm in size, each having three chambers (locules), but just one seed.

SIMILAR SPECIES: *Linnaea borealis* is the only species in its genus; it has three subspecies that occur in North America, but American Twinflower is the only one indigenous to the Northeast. Subspecies *longiflora* (Long-tube or Pacific Twinflower) is restricted mainly to the Pacific Northwest, and subspecies *borealis* (Twinflower) occurs in Alaska, Siberia, and northern Europe.

There are few plant species in Massachusetts that could easily be mistaken for this distinctive wildflower. Two trailing plants that can be found in similar habitats, Partridgeberry (*Mitchella repens*) and Creeping Wintergreen (*Gaultheria hispidula*), are superficially similar to American Twinflower. Partridgeberry, a subshrub of the madder family (Rubiaceae), has opposite



Distribution in Massachusetts
1990-2015

Based on records in
Natural Heritage Database
Map updated 2015

A Species of Greatest Conservation Need in the Massachusetts State Wildlife Action Plan

Massachusetts Division of Fisheries & Wildlife

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evergreen leaves and paired pale flowers, but unlike American Twinflower, it has smooth (entire) leaf margins, and flowers that are sessile, erect, and four-lobed. Creeping Wintergreen, a low shrub of the heath family (Ericaceae), shares some of these differences from American Twinflower (i.e., four-lobed sessile flowers and entire leaf margins) and also has alternate, rather than opposite, leaf arrangement.

HABITAT: American Twinflower is typically associated with cool, moist, northern boreal habitat types, such as spruce-fir forests and high elevation communities. However, the species is known from a variety of settings across the continent, including some that are relatively dry and dominated by deciduous forest. In Massachusetts, American Twinflower is primarily documented from moist forests, edges, and wetlands featuring Red Spruce (*Picea rubens*), Balsam Fir (*Abies balsamea*), and northern hardwood species. Less commonly, the species occurs in drier habitats, such as one population found within in a dry woodland with Red Pine (*Pinus resinosa*), White Pine (*P. strobus*), and a mix of oaks (*Quercus* spp.). Other common associated plant species include Eastern Hemlock (*Tsuga canadensis*), birches (*Betula* spp.), American Beech (*Fagus grandifolia*), blueberries (*Vaccinium* spp.), wintergreens (*Gaultheria* spp.), Bunchberry (*Chamaepericlymenum canadense*), Bracken Fern (*Pteridium aquilinum*), and mosses (e.g., *Sphagnum* spp. and *Polytrichum commune*).

RANGE: American Twinflower has been documented from all Canadian provinces and territories, and from 30 U.S. states. In the U.S., American Twinflower is known from New England west to Washington, and south to Maryland, West Virginia, Tennessee, Indiana, Iowa, New Mexico, Arizona, and California. In the Northeast, it is common in northern New England and New York, rare in Connecticut and Massachusetts, and potentially extirpated from New Jersey and Rhode Island.

THREATS/MANAGEMENT

RECOMMENDATIONS: A primary threat to American Twinflower, particularly in Massachusetts, is the low long-term viability of small populations due to the plant's inability to successfully cross-pollinate with closely-related individuals. Further, when seed is successfully produced, it does not remain viable for very long in the seed bank. Though the species often spreads asexually via stolons, the challenges small populations

face achieving sexual reproduction make them vulnerable to dying out over time. There are also habitat-related threats. Some Massachusetts populations are located adjacent to roads and off-highway vehicle trails, and may be threatened by roadside management, salt, and other physical disturbances. As with many forest wildflowers, American Twinflower may not compete well with dense invasive plant cover. Invasives are not currently a documented threat in Massachusetts American Twinflower populations but sites should be monitored closely for new invasions. All population management actions within state-listed species habitat (i.e., "Priority Habitat") are subject to review under the Massachusetts Endangered Species Act, and should be planned in consultation with the NHESP.

POPULATION STATUS IN MASSACHUSETTS:

American Twinflower is listed under the Massachusetts Endangered Species Act as Special Concern. All listed species are protected from killing, collecting, possessing, or sale and from activities that would destroy habitat and thus directly or indirectly cause mortality or disrupt critical behaviors. American Twinflower is currently known from a few small populations in Berkshire, Franklin, and Worcester Counties, and is historically known from Barnstable, Essex, Hampden, Middlesex, Norfolk, and Plymouth Counties.

Flowers Present in Massachusetts

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Prepared 2015

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